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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,073	07/30/2007	Joachim Lohr	L7725.06118	2010

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EXAMINER	
BALAOING, ARIEL A	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
12/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/588,073	LOHR ET AL.	
	Examiner	Art Unit	
	ARIEL BALAOING	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38-63 and 75* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38-45,48-54,58-63 and 75* is/are rejected.

7)☒ Claim(s) *46,47 and 55-57* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 June 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/27/2009 has been entered.

Response to Arguments

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 38-45, 48, 51-54, 58-63, 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over LOVE et al (US 2004/0219920) in view of LEGG et al (US 6,414,947).

Regarding claim 38, LOVE discloses a method for communicating information relating to the scheduling of uplink data transmissions , wherein a mobile terminal [**mobile station**] uses a plurality of Hybrid Automatic Repeat reQuest (HARQ) processes to transmit uplink data via an Enhanced Uplink Dedicated Channel of a Universal Mobile Telecommunication System (UMTS) to a plurality of base stations

[**base transceiver stations**] during soft handover of the mobile terminal in a mobile communication system, and wherein at least one base station of said plurality of base stations schedules uplink data transmissions of the mobile terminal in soft handover (abstract; paragraph 19, 30; uplink scheduling of a mobile station), the method comprising: determining, at the at least one scheduling base station of said plurality of base stations, scheduling information for the mobile terminal indicative of allocated maximum amount of uplink resources applicable to the individual HARQ processes used for uplink data transmission (paragraph 18, 38, 39; maximum data rate based on scheduling and HARQ status), transmitting information to at least one other base station of said plurality of base stations to inform the at least one other base station on the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes (paragraph 18, 37-39; 42; BTS's in the active set are provided scheduling information of mobile station in soft handover), and scheduling, by the at least one other base station at least one other mobile terminal in communication with a respective base station based on the information received from the scheduling base station (paragraph 42, 43; information is used to determine a maximum allowed power margin target or limit for each mobile station). However, LOVE does not expressly disclose wherein the transmitting is from the at least one scheduling base station. In the same field of endeavor, LEGG discloses transmitting information from at least one scheduling base station to at least one other base station (col. 6, line 15-34; resource allocation communicated to a relevant base station. This information can be distributed in any part of the system including base stations).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LOVE to include the teachings of LEGG, since transmission of information from the base station would allow a network to provide resources to a relevant base station without using wireless resources from the mobile station.

Regarding claim 39, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses further comprising signaling by said at least one scheduling base station the determined scheduling information to the mobile terminal in soft handover to allocate the maximum amount of uplink resources to the mobile terminal for uplink data transmissions on the individual HARQ processes (paragraph 15, 16).

Regarding claim 40, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the maximum amount of uplink resources applicable on the individual HARQ processes used for uplink data transmissions indicates the maximum data rate or the maximum uplink transmission power ratio that may be used by the mobile terminal for uplink transmissions using the individual HARQ processes (paragraph 48, 50, 55, 58).

Regarding claim 41, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the at least one scheduling base station schedules uplink data transmissions by controlling the Transport Format Combination Set (TFCS) available to the mobile terminal in soft handover for uplink data transmission or by controlling the uplink transmission power

ratio of the mobile terminal (paragraph 58, 61; control of uplink transmission power ratio).

Regarding claim 42, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LOVE and LEGG further discloses wherein the indicated allocated applicability of maximum amount of uplink resources for uplink data transmission on the individual HARQ processes is transported via a serving radio network controller (LOVE- paragraph 18, 37-39; 42; LEGG - col. 6, line 15-34; LOVE disclose the indicated allocated applicability of maximum amount of uplink resources, while LEGG discloses transmission of resource allocation to a relevant base station via a network controller), and wherein indicating the applicability of allocated maximum amount of uplink resources for uplink data transmission on the HARQ processes comprises: signaling the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes from the at least one scheduling base station to the serving radio network controller, and informing the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes to the other base stations by the serving radio network controller (LOVE- paragraph 18, 37-39; 42; LEGG - col. 6, line 15-34; LOVE disclose the indicated allocated applicability of maximum amount of uplink resources, while LEGG discloses transmission of resource allocation to a relevant base station via a network controller).

Regarding claim 43, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LOVE and LEGG further

discloses wherein the serving radio network controller determines whether to forward the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes to a respective one of said other base stations based on cell interference within the radio cell controlled by the respective one of said other base stations (LOVE – paragraph 18, 42, 46; LEGG - col. 6, line 15-34; scheduling information used to determine interference of adjacent base stations).

Regarding claim 44, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the indicated allocated applicability of maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes for is transported using control signaling (paragraph 41).

Regarding claim 45, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LOVE and LEGG further discloses wherein the scheduling base station determines, signals and indicates the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes for the mobile terminal in soft handover each time the mobile terminal in soft handover is scheduled by the scheduling base station (LOVE – abstract; paragraph 46; LEGG - col. 6, line 15-34).

Regarding claim 48, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LOVE and LEGG further discloses wherein the plurality of base stations defines the active set of the mobile terminals in soft handover and wherein the method further comprises adding a base

station to the active set of the mobile terminals and signaling the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes for the mobile terminal in soft handover to said added base station by the serving radio network controller (LOVE - paragraph 4, 5, 29; LEGG - col. 6, line 15-34).

Regarding claim 51, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein each of said base stations schedules uplink data transmissions of the mobile terminal in soft handover to the respective one of said plurality of base stations (paragraph 36, 37).

Regarding claim 52, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein each of the plurality of base stations determines scheduling information to the mobile terminal indicative of an allocated maximum amount of uplink resources for uplink data transmission on the individual HARQ processes allocated to the mobile terminal by the respective base station, and signals the determined scheduling information to the mobile terminal in soft handover to allocate the maximum amount of uplink resources for uplink data transmissions using the individual HARQ processes to the terminal for uplink data transmission to the respective base station (paragraph 18, 37-39, 42).

Regarding claim 53, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses further comprising choosing by the mobile terminal the lowest assigned maximum amount of uplink

resources for uplink data transmissions using the individual HARQ processes of uplink transmissions to all base stations of the plurality of base stations (paragraph 39, 47).

Regarding claim 54, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses further comprising forming by the mobile terminal a combined maximum amount of uplink resources on the assigned maximum amounts of uplink resources for uplink data transmissions using the HARQ processes, which is used by the mobile terminal for uplink transmissions to all base stations of the plurality of base stations (paragraph 46, 47).

Regarding claim 58, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. The combination of LOVE and LEGG further discloses further comprising requesting by a serving radio network controller from at least one base station of said plurality of base stations to signal the applicability of allocated maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes for the mobile terminal in soft handover to said serving radio network controller (LOVE – paragraph 38; LEGG – col. 5, line 55-60; col. 6, line 15-34; resources allocated for a mobile in soft handover using associated cell determination information forwarded from the network controller).

Regarding claim 59, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the maximum allocated amount of uplink resources for uplink, data transmissions on the individual HARQ processes is signaled from a base station to the mobile terminal via a shared

channel, or a dedicated channel (LOVE – paragraph 90, 113; LEGG – col. 8, lines 47-63).

Regarding claim 60, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the transmitted uplink data is carried by an Enhanced Dedicated Channel (E-DCH) (paragraph 42, 44; EUDCH).

Regarding claim 61, LOVE discloses a mobile communication system for communicating information relating to the scheduling of uplink data transmissions (abstract), wherein the communication system comprises: a mobile terminal that uses a plurality of Hybrid Automatic Repeat request (HARQ) processes to transmit uplink data on an Enhanced Uplink Dedicated Channel of a Universal Mobile Telecommunication System (UMTS) to a plurality of base stations during soft handover of the mobile terminal in the mobile communication system, and said plurality of base stations (abstract; paragraph 19, 30; uplink scheduling of a mobile station), wherein at least one base station of said plurality of base stations schedules uplink data transmissions of the mobile terminal in soft handover (paragraph 18, 38, 39; maximum data rate based on scheduling and HARQ status), wherein the at least one scheduling base station of said plurality of base stations determines scheduling information for the mobile terminal indicative of an allocated maximum amount of uplink resources applicable to HARQ processes used for uplink data transmissions and transmits information to at least one other base station of the plurality of base stations to inform the at least one other base station on the applicable allocated maximum amount of uplink resources for uplink data

transmissions on the individual HARQ processes (paragraph 18, 37-39; 42; BTS's in the active set are provided scheduling information of mobile station in soft handover), and wherein the at least one other base station schedules at least one other mobile terminal in communication with a respective base station based on the information received from the scheduling base station (paragraph 42, 43; information is used to determine a maximum allowed power margin target or limit for each mobile station). However, LOVE does not expressly disclose wherein the transmitting is from the at least one scheduling base station. In the same field of endeavor, LEGG discloses transmitting information from at least one scheduling base station to at least one other base station (col. 6, line 15-34; resource allocation communicated to a relevant base station. This information can be distributed in any part of the system including base stations). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify LOVE to include the teachings of LEGG, since transmission of information from the base station would allow a network to provide resources to a relevant base station without using wireless resources from the mobile station.

Regarding claim 62, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the at least one scheduling base station transmits the determined scheduling information to the mobile terminal in soft handover to allocate the maximum amount of uplink resources applicable to the HARQ processes used to uplink data transmissions (paragraph 15, 16).

Regarding claim 63, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. LOVE further discloses wherein the other base stations of said plurality of base stations schedule at least one other mobile terminal in communication with a respective base station taking into account the indicated applicability of allocated maximum amount of uplink resources for uplink data transmissions on the HARQ processes for said mobile terminal in soft handover (paragraph 42, 43).

Regarding claim 75, LOVE further discloses wherein the uplink maximum transmission power ratio is a maximum power ratio of a data channel to a control channel for uplink transmissions (paragraph 50, 51).

5. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over LOVE et al (US 2004/0219920) in view of LEGG et al (US 6,414,947) and further in view of SEO et al (US 2003/01851559 A1).

Regarding claim 49, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, the combination of LOVE and LEGG does not expressly disclose wherein information for signaling of the applicability of maximum amount of uplink resources for uplink data transmissions on the individual HARQ processes to said added base station is comprised within a message communicated during the active set update procedure. In the same field of endeavor, SEO discloses wherein information for signaling of the applicability of maximum amount of uplink resources for uplink data transmissions on individual HARQ processes to an added base station is comprised within a message communicated during the active set

update procedure (paragraph 89, 90; Table 5; resource allocation transmitted during active set update). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LOVE and LEGG to include the teachings of SEO, since such a modification would provide updated active set base stations with current information relating to resources allocated to mobile terminals.

6. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over LOVE et al (US 2004/0219920) in view of LEGG et al (US 6,414,947) and further in view of ZHANG et al (US 2005/0094600).

Regarding claim 50, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. However, the combination of LOVE and LEGG does not expressly disclose wherein one base station of said plurality of base stations schedules uplink data transmissions of the mobile terminal in soft handover to all base stations of said plurality of base stations. In the same field of endeavor, ZHANG discloses wherein one base station of a plurality of base stations schedules uplink data transmissions of the mobile terminal in soft handover to all base stations of said plurality of base stations (paragraph 51, 52; primary node provides scheduling). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of LOVE and LEGG to include the teachings of ZHANG, since ZHANG states that such a modification would improve coordination between a plurality of Nodes during soft handover (paragraph 2, 7).

Allowable Subject Matter

7. Claims 46, 47, 55-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARIEL BALAOING whose telephone number is (571)272-7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ariel Balaoing/
Examiner, Art Unit 2617

/A. B./
Examiner, Art Unit 2617